

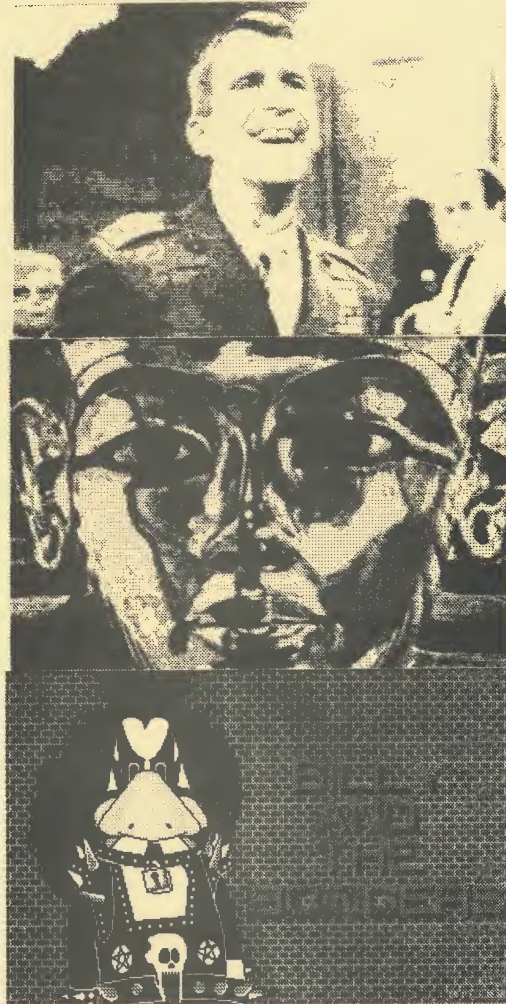
# THE LONG ISLAND ATARI USERS GROUP LIGHTHOUSE

JUNE-JULY 1987  
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The Newsletter of the Long Island ATARI Users Group

Who  
would  
you  
pick  
as  
hacker  
of the  
month?



## Inside:

Sound chip experiments  
Modifying your cartridge port  
Part II of the Douglas Adams  
interview  
A large review section  
Latest news





## THE LIAUG LIGHTHOUSE

The Newsletter of the Long  
Island ATARI Users Group

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## Editorial-

In one of my other lives, I work with the Long Island Local of the War Resisters League. One of the projects that we have been involved with is a war toys campaign. War toys are seen to create violent behavior in children, are help them to accept war as viable, unavoidable, or necessary. Which brings us to computer programs, or more specifically, computer games. From the early arcade games, to some of the more complicated simulations, one of the most popular themes in computer gaming is war. It can be against aliens, or animals or people. Sometimes it is very abstract, and other times very real and even brutal. What is harmful and what is not? My son has had a computer since he was a couple years old, and I've had to look at this subject carefully. Avoiding the violent games does not leave you that many programs. Even some educational programs have you blasting away to learn. More and more children has access to computers, and they are experiencing a different type of play then shooting stick 'guns' in the back yard. Is this better or worse for them? And what do we do about it? Is it possible to make fun computer games that are not violent? Is there a demand for them? What pressure will be brought to bear on software houses to produce non-violent games? Many people want children to be prepared for war, believing war to be acceptable. (At least I am assuming this from the support Ollie North received from people, what what he was doing was helping people to kill and destroy--in other words wage war.) The software will be produced will be what is demanded. This discussion has a bearing on this newsletter. What do I do about reviews and product announcements of war games? I would guess not many children read the Lighthouse, but is it promoting war toys? This is an issue I as editor must decided for myself. I could just omit certain articles from the newsletter, but that is not accepting my personal responsibility, and would betray a trust from the group. You will see reviews in this issue of war games, and for now my decision is to publish what is submitted. I would be interested in what members of the group felt

*Cont. next page*



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Front Cover by Audri Farber

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about any aspect of this issue. You can certainly talk to me at the meetings, or send letters to the Lighthouse. On a totally different subject, you might notice that there are a couple articles in this issue that have accompanying programs. Whenever this is the case I will make arrangements to have the programs in the LIAUG disk library. If the programs are short enough, I will from time to time publish them, particularly if I think that something can be learned from looking at the listing. That's it for this month. Peace--Roger

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## The President's Column

By John I. Aalto, Jr.

### MENTAL GYMNASTICS

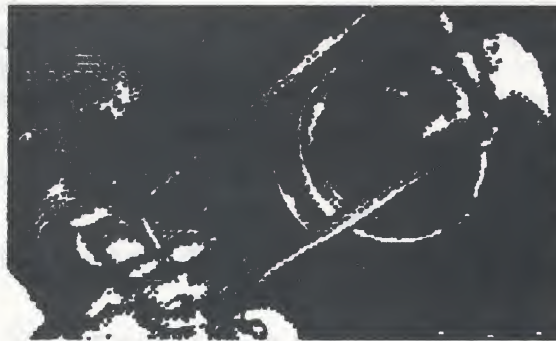
Music! The ST is on the verge of being the music world's default MIDI computer. It has already achieved being the cost-effective choice and as the software increases it will be the computer of first choice. Just pick up either KCS, Electronic Musician, or any other computer music publication and you'll see that the ST is steamrolling along. Speaking of Electronic Musician, I was delighted to see a full-page inside back cover ad in the March issue in which KAWAI advertised what they call a K3 synthesizer system. The full system would include an Atari 130XE computer with Hybrid Arts MIDI, KAWAI's K3 Digital Wave Synthesizer with a K3M enhanced keyboard module. Sounds like a pretty complex 'game machine' to me. Long live Atari 8bit power!

I'm especially pleased that Atari is going for the gold in the Music Olympics. Why? Well... have you ever noticed that science or math buffs also tend to be music buffs, usually classical or jazz? If you consider that written music is a highly organized system of abstract constructs, I think you'll get the idea. I was talking to a friend, who is a classical musician and teacher, about this and it was one of his comments that really got me to think about it. The university that he teaches at is in Connecticut and right in the area there are several large insurance firms. When computer systems were newer these companies

would canvas the music department of the university for potential employees. Part of the thinking was that a musician would be able to 'transpose' their training and insights on music structure into learning computer systems.

In this vein, I think it's more descriptive to call programmers... *program composers*. If you already are 'composing'

I know of no study correlating knowledge of music theory to programming skills and that's probably a shame. The Arts need all the defenders it can get in these days of reduced educational expectations. Need to tighten up a school budget, just cut back in music. Funny how they don't have that problem in Japan. Music is venerated as a fundamental towards a



programs you know what I mean. Your program orchestrates a myriad of information into a form of presentation. Composers look for precision and clarity in a human form. Next time you use a program try to have this thought in the back of your head... "What kind of music is this program like?". A lot of P.D. stuff reminds me of folk songs. Super 3D Plotter II reminds me of jazz (I'm cheating here! I know Randy is a jazz musician.) Typesetter is a touch baroque (in a positive sense). Most of the game programs remind me of rock songs (maybe because I usually only last a little over 3 minutes before I'm killed).

disciplined and creative mind. It scared the G clef out of me to see a TV clip of thousands of Japanese getting together in large stadiums across Japan and to sing Beethoven's Ninth Symphony's fourth movement "Ode to Joy". Just for the hell of it. A glee club kind-of-thing. Now that makes me sweat! Any sophisticated culture recognizes music's ability to exercise and refresh the mind. My hope is that computers will make those skills easier to come by. Certainly the computer continues to become a multi-varied instrument and music applications are like adding a Nautilus to your mental gymnasium.





## SOUNDEX

A program and tutorial for the ST

by Stephen Mehalek

I can't count the number of times I've sat down in front of my ST and wanted to do something with the sound chip. Well last week that desire became a requirement when I embarked on a project to make a speech synthesizer for one of the programs I am developing. Since the first step in building a speech synthesizer on the ST is to understand the sound capabilities of the ST, I needed a program that would allow me to experiment with the sound capabilities of the ST. This article, the source code, and the accompanying program are the result of that work.

### Using Soundex:

There are only two requirements for using the soundex program: First, make sure the resource file "soundex.rsc" is in the same directory as the program file "soundex.prg". Second, make sure key click on the ST is turned off. To turn the key click option off use the control panel, save the desktop if you want to make this permanent. To run the Soundex program double clicking on the "soundex.prg" file or icon. After double clicking, you will see one window with a text line at the bottom and a single menu header called File. Under the menu title File are the five options:

- Set Channel A.....
- Set Channel B.....
- Set Channel C.....

### Envelope period...

Quit.

Select the option labeled "Set Channel A". A dialog box with several buttons and editable text fields will appear. For the sake of example, set or enter the following values:

In the frequency field enter 400

In the volume field enter 9.

(Use the up and down arrows to go from field to field. Don't hit the return key, or you terminate the dialog box).

Select the tone button by single clicking the mouse over the button labeled "tone" (Proper selection will result in the button inverting in coloring and staying that way).

Hit the return key or click on the button labeled "OK". Your sound selection should now be coming over the speaker (Don't forget to turn up the speaker volume). You may select the other two channels in a similar fashion to the above. Play around with some different values for each of the channels, and then come back to this article for an explanation of what you are doing when you get bored. Oh yeah, to turn off the sound coming out of the speaker you can depress the spacebar.

### Utilizing The Sound Chip:

The sound chip chosen for the ST is the AY-3-8910 from General Instruments Corp. This chip provides a frequency range of 30Hz to 125Khz on the ST in

three channels. A channel, often referred to as a voice, is an independent sound subsystem, and can be thought of as one out of a group of three people speaking. Along with the basic volume and frequency controls, the AY-3-8910 provides full control of the ASDR (Attack Sustain Decay Release) envelope and the period over which the envelope repeats itself. The ASDR envelope provides a simple means for generating background beats, and rise and fall sound effects. Noise may be interjected with modest control for each of the three channels also.

All of the above mentioned features may be accessed, by placing specific values into several registers on the sound chip (Refer to figure 1 for a map of the registers). Since the operation of writing values or reading values from registers on the sound chip is somewhat common, Atari created an XBIOS routine called `Giaccess(a,b)`. A sample call (`c=Giaccess(a,b)`) takes two parameters. "a" is the value to write to the register in question, and "b" is the register to write or read from. "c" is the value read from the sound chip register. Reading and writing are not performed in the same operation. This means that "a" will have no meaning in a read operation, and "c" will have no meaning in a write operation. In order to differentiate between





Register	Function	Bit Number							
		7	6	5	4	3	2	1	0
0x00	Chan A fine tune byte	S	S	S	S	S	S	S	S
0x01	Chan A coarse tune byte					S	S	S	S
0x02	Chan B fine tune byte	S	S	S	S	S	S	S	S
0x03	Chan B coarse tune byte					S	S	S	S
0x04	Chan C fine tune byte	S	S	S	S	S	S	S	S
0x05	Chan C coarse tune byte					S	S	S	S
0x06	Noise peroid				S	S	S	S	S
0x07	Voice Enable	A I/O	B I/O	----- Chan 3	Noise Chan 2	----- Chan 1	-- Channel Select --		
0x08	Chan A volume				Noise select	S	S	S	S
0x09	Chan B volume				Noise select	S	S	S	S
0x0A	Chan C volume				Noise select	S	S	S	S
0x0B	Envelope coarse tune	S	S	S	S	S	S	S	S
0x0C	Envelope fine tune	S	S	S	S	S	S	S	S
0x0D	Envelope shape					Attack	Sustain	Decay	Repeat
0x0E	Parallel I/O channel A	S	S	S	S	S	S	S	S
0x0F	Parallel I/O channell B	S	S	S	S	S	S	S	S

s = selectable or usable bits

Figure 1. Map of the sound chips registers.

the two operations of reading and writing a system of offsets is used. To initiate a read from the register we would add 0 to the register number i.e. initiating a read:

```
value_read = Giaccess(0,
FREQ_REG_COURSE_TUNE+0);
initiating a write:
Giaccess(300,FREQ_REG_COURSE
_TUNE+128)
```

Let's go over each of the registers and there function. (See Figure 1.) Register 0x00 and 0x01 are the frequency control for channel A. Register 0x00 is the fine tune and register 0x01 is the course tune byte. The first four bits of register 0x01 are active. Thus, if we combine register 0x00 and 0x01, we see that we have twelve bits or 4096 different frequency values that can be selected. Registers 0x02 through 0x05 are paired in

groups of two for channels B and C. Selecting value below 12 produce sounds out of the audible range.

Register 0x06 controls the volume of white noise on a channel. Values for this register may vary between 0 and 31 or the first five bits of register 0x06 are active. Note! Noise volume control affects all channels with noise enabled.

Register 0x07 is the key to selection of individual channels and there corresponding noise. Selection of these attributes work in the exact opposite of what you would expect. When a bit is high or you store a 1 to it channels are not selected i.e. if we set channels A and B bits 2 and 1 would set normally you would generate the binary value 110. Since everything works in reverse for this program, you

would write 001 to the register. Refer to figure 1 for the individual bits and their affect. The first four bits in register 0x08 control the volume of channel A. Along with control of the volume, bit number five enables the sound envelope generator (See the discussion of the envelope shape in the register 0x0d). Volume values may range from 0 to 15, with 0 being off. Register 0x09 and 0x0a control the volume of channels B and C in the same fashion as the above discussion of register 0x08.

The next two registers control the envelope period i.e. the time between repetition of the envelope shape. Values for this register may be in the range of 0 to 65535. Zero being the quickest repetition of the

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# Musings about Midi

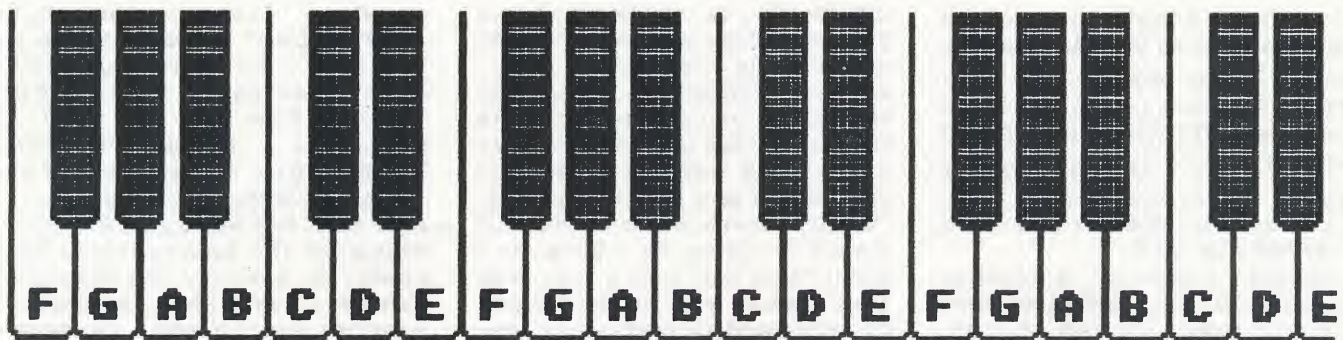
By Mike Gille

From time to time (or maybe just one time) I will be writing about my discoveries in the world of MIDI (the Music Instrument Digital Interface). A MIDI interface is available for most popular personal computers. This past November (1986) I slowly began the process of configuring a MIDI system. I will be presenting MIDI from an amateur/hobbyist perspective.

does a good job of being a sequencer, however it does a poor job of being a recorder. Music Studio can "record" the notes although it won't record the duration of the note. There are however other software products that will do this.

Music Studio will present you with a musical staff. You can place the notes on the staff using a mouse. On an Atari ST

Musical hardware is more expensive than computer hardware because the market is smaller. At the low end of the market is the Casio CZ-101. Music Studio has some files that are programmed for this instrument. The Casio CZ-101 has a mini-keyboard and is a multi-timbral instrument. "Multi-timbral" means that it can play many timbres (sounds-instruments) at the same time. The Casio CZ-101 can play four different instruments at the same time. The nice thing about MIDI is that you can now devise a musical system using com-



An attempt will be made to convey accurate information. For more information, I would refer the reader to the book "MIDI for Musicians" by Craig Anderton (I purchased my copy at MicroWorld). I have been a subscriber to Electronic Musician (formerly Polyphony magazine) for over 10 years, and have found it helpful. Keyboard is another magazine that covers MIDI.

A computer can serve many purposes in a MIDI system because a computer can be programmed. I am using Music Studio from Activision to run the computer. Music Studio will work with an Amiga or an Atari ST. Music Studio turns the computer into a Sequencer-Recorder. A sequencer is a device that provides a sequence of musical notes. It is a sort of electronic player piano roll. A recorder is like a tape recorder. It "records" the notes played on the keyboard. Music Studio

you can play 3 voices at once and on the Amiga 4 voices. When Music Studio is used with MIDI it can control 15 channels of information (and many voices).

The Channel Number, Program Number and range of notes can be assigned to each of the 15 "instruments" Music Studio uses.

Each of the 15 instruments can be named. An instrument on the MIDI network can be programmed to recognize only a certain channel. You could have electronic drums on Channel 3 and an electronic piano on Channel 4. Each device would only recognize data on it's channel. An electronic piano may have many different sounds available. This can be changed by switching to a different program. The computer, acting as a sequencer, can automatically change the programs (sounds) during the song.


In order to use Music Studio with MIDI, you need some kind of musical instrument.

ponents. An interesting device is the Yamaha FB-01, which is in the same price range as the Casio CZ-101. The Yamaha FB-01 has no keyboard! However it can play eight instruments at the same time. The FB-01 is ideal for people who can't play the keyboard very well or who need a second synthesizer. If you have a Casio CZ-101 (or any other MIDI device with a keyboard), it can control the FB-01, as well as itself, giving 12 voices of music. The computer along with Music Studio can control both machines. I'll postpone a review of the FB-01 until a future issue. If you are considering getting into MIDI, take a good look at the Yamaha FB-01, which I consider a better value than the Casio CZ-101.

Until next time, hmmmmmm...

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# DON'T PANIC

Here's Part 2 of the  
Interview with:



# DOUGLAS ADAMS

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BY GREGG PEARLMAN, ANTIC ASSISTANT  
EDITOR

This is a continuation of the interview with Douglas Adams, author of the popular four-book HITCHHIKER'S trilogy and the Infocom HITCHHIKER'S GUIDE TO THE GALAXY text adventure game. Also, along with John Lloyd, Adams wrote THE MEANING OF LIFE.

Adams: Vonnegut is another favorite of mine. I deliberately put him low on the list, though, because I get embarrassed by people trying to draw comparisons between him and me -- on one very, very superficial level, it's an easy comparison: he writes stuff that is a) funny, and b) uses science fiction to make its points, and I write stuff that is funny and uses science fiction to make its points. But that's the only level of comparison. Vonnegut is essentially a deeply serious writer. Obviously a major part of his world view, if you like, comes from the experience he describes in SLAUGHTERHOUSE FIVE of being a Prisoner of War in Dresden during the fire-bombing. And I don't have any experience like that to draw on, you know, nothing remotely approaching that. So Vonnegut is ESSENTIALLY a deeply serious writer who uses comedy to make his points, and I am essentially a comic writer who occasionally tries to slip a point about something or other "under the counter," so to speak, and so from that point of view, I find

the comparison embarrassing because he's a great writer, and I think I'm essentially a frivolous one, I'm afraid.

Antic: You're pretty much in a position where you can say what you want, to an extent.

Adams: Well NO, no, no, because the reason you get to be good in the first place is that you work very, very hard at getting it right and if as a result you think, "Well, therefore the world will HAVE to listen to whatever I write," you fall into a trap, and that's when you have to work doubly hard to make sure you DON'T let stuff by that isn't good enough. And I'm afraid, I think, that was the fault with SO LONG, AND THANKS FOR ALL THE FISH -- I just completely lost my way. You have to continue to apply the same criteria you applied when there was not the slightest reason why the world should give a damn about anything you write. You can't presume on an audience. You're the only one that can keep your standards up; if you don't, then you're lost. I think everybody's allowed to slip once or twice -- but you slip twice in succession and you're in trouble. So it's not right to say you can write what you please, and that you've earned the RIGHT to write what you please. You've earned yourself an audience, sure, but to keep that audience, you have to maintain the same standards -- which is not to say you carry on doing the same thing: if you do, you're compromising in a way, because the whole point of the thing you did in the first place was that it was new and original. So you

have to try and strive to be new and original, and it's a hard task.

Antic: What you've said partially answers my next question: from the fact that Arthur Dent seemed to be a happier, more in-control character in SO LONG, AND THANKS FOR ALL THE FISH, I wondered if in fact YOU were happier and more in control when you wrote it than before.

Adams: It's always difficult bringing the biographical element in, because the connections are never that obvious. I suppose my life was a bit more stable at that point, but on the other hand it was rendered unstable by trying to write that book. Basically whenever I have a book to write, it always precipitates all kinds of major crises in my life. It's an insanely difficult thing to do, or at least I find it so.

Antic: I had heard the story about the biscuits long before SO LONG, AND THANKS FOR ALL THE FISH came out, and it was a pleasure to recognize it in that book.

Douglas Adams's "Biscuit Story" (Excerpted from SO LONG, AND THANKS FOR ALL THE FISH, chapter 20, by permission of the author.)

"I'll tell you a story," said Arthur.

"Good."

They found a patch of grass which was relatively free of couples actually lying on top of each other and sat and watched the stunning ducks and the low sunlight rippling on the water which ran beneath the





stunning ducks.

"A story," said Arthur, cuddling his arm to her. "Which will tell something of the sort of things that happen to me. It's absolutely true."

"True story."

"You know sometimes people tell you stories that are supposed to be something that happened to their wife's cousin's best friend, but actually probably got made up somewhere long the line."

"Well, it's like one of those stories, except that it actually happened, and I know it actually happened, because the person it actually happened to was me."

"Like the raffle ticket."

"While trying to talk to Fenchurch, Arthur had bought a raffle ticket from an inane woman as an attempt to get her to go away. He won the raffle."

Arthur laughed. "Yes. I had a train to catch. I arrived at the station--"

"Did I ever tell you," interrupted Fenchurch, "what happened to my parents in a station?"

"Yes," said Arthur, "you did."

"Just checking."

"Fenchurch said she was so named because she was conceived at the Fenchurch Street Station in London."

Arthur glanced at his watch. "I suppose we could think of getting back," he said.

"Tell me the story," said Fenchurch firmly. "You arrived at the station."

"I was about twenty minutes early. I'd got the time of the train wrong. I suppose it is at least equally possibly," he added after a moment's reflection, "that British Rail had got the time of the train wrong. Hadn't occurred to me before."

"Get on with it," Fenchurch laughed.

"So I bought a newspaper, to do the crossword, and went to the buffet to get a cup of coffee."

"You do the crossword?"

"Yes."

"Which one?"

"THE GUARDIAN, usually."

"I think it tries to be too cute. I prefer THE TIMES. Did you solve it?"

"What?"

"The crossword in THE

GUARDIAN."

"I haven't had a chance to look at it yet," said Arthur. "I'm still trying to buy the coffee."

"All right then. Buy the coffee."

"I'm buying it. I am also," said Arthur, "buying some biscuits."

"What sort?"

"Rich Tea."

"Good choice."

"I like them. Laden with all these new possessions, I go and sit at a table. And don't ask me what the table was like because this was some time ago and I can't remember. It was probably round."

"All right."

"So let me give you the layout. Me sitting at the table. On my left, the newspaper. On my right, the cup of coffee. In the middle of the table, the packet of biscuits."

"I see it perfectly."

"What you don't see," said Arthur, "because I haven't mentioned him yet, is the guy sitting at the table already. He is sitting there opposite me."

"What's he like?"

"Perfectly ordinary. Briefcase. Business suit. He didn't look," said Arthur, "as if he was about to do anything weird."

"Ah. I know the type. What did he do?"

"He did this. He leaned across the table, picked up the packet of biscuits, tore it open, took one out, and..."

"What?"

"Ate it."

"WHAT?"

"He ate it."

Fenchurch looked at him in astonishment. "What on earth did you do?"

"Well, in the circumstances I did what any red-blooded Englishman would do. I was compelled," said Arthur, "to ignore it."

"WHAT? Why?"

"Well, it's not the sort of thing you're trained for, is it? I searched my soul, and discovered that there was nothing anywhere in my upbringing, experience, or even primal instincts to tell me how to react to someone who has quite simply, calmly, sitting

right there in front of me, stolen one of my biscuits."

"Well, you could..."

Fenchurch thought about it. "I must say I'm not sure what I would have done either. So what happened?"

"I stared furiously at the crossword," said Arthur, "couldn't do a single clue, took a sip of coffee, it was too hot to drink, so there was nothing for it. I braced myself. I took a biscuit, trying very hard not to notice," he added, "that the packet was already mysteriously open..."

"But you're fighting back, taking a tough line."

"After my fashion, yes. I ate the biscuit. I ate it very deliberately and visibly, so that he would have no doubt as to what it was I was doing. When I eat a biscuit," said Arthur, "it stays eaten."

"So what did he do?"

"Took another one. Honestly," insisted Arthur, "this is exactly what happened. He took another biscuit, he ate it. Clear as daylight. Certain as we are sitting on the ground."

Fenchurch stirred uncomfortably.

"And the problem was," said Arthur, "that having not said anything the FIRST time, it was somehow even more difficult to broach the subject the second time around. What do you say? 'Excuse me...I couldn't help noticing, er...Doesn't work. No, I ignored it with, if anything, even more vigor than previously.'"

"My man..."

"Stared at the crossword again, still couldn't budge a bit of it, so showing some of the spirit that Henry V did on St. Crispin's Day..."

"What?"

"I went into the breach again. I took," said Arthur, "another biscuit. And for an instant our eyes met."

"Like this?"

"Yes, well, no, not quite like that. But they met. Just for an instant. And we both looked away. But I am here to tell you," said Arthur, "that there was a little electricity in the air. There was a little tension building

cont. on page 20





## LIAUG REVIEWS

### THE FINANCIAL COOKBOOK

Electronic Arts  
2755 Campus Drive  
San Mateo, CA 94403  
\$14.95, Disk

Reviewed by Horst A Dewltz

Electronic Arts did it again. They provided us, the 8 bit Atari users, with a very usefull home management program. *Financial Cookbook* consists of 32 recipes to cook up a storm so to speak. Enough of this sort of blaber. Did you ever wonder how long your available resources would last, if you retired at age 65 and had no further income? Well, using \$ 180,000.00 as a hyperthetical figure, at 4% inflation and 6.75 % interest, it should last about 11 years and some 8 month. To arrive at all this you have to boot your disk (XL/XE owners hold down your option key!) and follow the menu and your instruction booklet. Both are very easy to understand and simple to follow. The range of situations is astounding. If you want to know about interest only on second mortgages, choose recipe #22. Want to find out about the true cost of fixing your car, choose #30 follow the menu and you will be surprised. How much life insurance do you need, choose #17. An IRA's future value, it is there for you to figure out. I could go on and on, but one has to buy this usefull piece of software and work with it to fully understand and appreciate it merrits. To let you in on some of the operating

details, listen to this: your screen is split in three parts, the top line shows the recipe you are working with, the middle shows the inputs necessary for the given recipe and the bottom line shows the commands, *compute, index, print, save, catalog*, for instance. Yes it does say print and save. All actions that you perform can be saved to disk or printed. No particular printer model is mentioned, therefor I assume that this program will work with any printer. There are instructions about changing linefeeds if your printer prints only on the same line. Also if your programs print out is longer than 66 lines, your are advised to use continuous feed paper. You also find DOS commands like *delete file, rename file, copy disk* as well as a choise of disk drives. In closing I like to state that this was my first Electronics Art program other than games. If I liked their game disks for their thoroughness and attention for details, then I must say that this Home Management Program follows their reputation for excellence. One more item of interest. If you buy an Electronic Art program and send in the warranty card, you receive automaticly their quarterly magazine FARTHER. Any subsequent purchase and mailing of warranty card extends your free subscription by one year, tacked on to your first free subscription. I am good right now for four years and with the quality of their product, which I intend to buy, I should be getting many more magazines.

### CUT & PASTE

Electronic Arts  
2755 Campus Drive  
San Mateo, CA 94403  
\$14.95, Disk

Reviewed by Mark D. Clochetto

Well here I am this month with a review of Cut & Paste, a word processor from Electronic Arts.

When I first saw this in

the store I thought it looked cute but let me tell you, looks are deceiving. I always wondered what it would be like to use it being that I didn't know anyone who had it.

Well let me tell you having it is a nightmare and now I know why nobody owns it-- because in my opinion it's a piece of garbage. Okay they call it quote "The remarkably simple word processor." At least that's what it says on the cover of the package. Do you know why it's so simple? It's so simple because it has hardly any commands. You can't center your text, you can't edge you text to the right, you can't paragraph. That's right there are no commands for these you have to do it manually.

Those are the things you can't do. Now what can you do? Well you can write letters or envelopes but who wants to use it. It doesn't even use a standard format so if you type up a doc file you can't save it and give it to a friend. It is not compatible with any word processor that I'm familiar with. Okay maybe I'm a little rough but I'm also angry that I have trouble loading it with my Rana disk drive due to the fact that Electronic Arts insists on using heavy copy protection. Don't they realize that not everyone owns a 1050 disk drive.

I feel I got taken on this deal and I'll never forget it. If you like typing and get a thrill out of any program go ahead and by it but if you are a serious programmer stay away from it. Yeah it's simple, so simple I feel they insulted my intelligence. A six year old might love it but I sure don't.

In the long run if you want a good word processor then use either Atariwriter+ or Paperclip but don't buy this one unless you like to collect garbage.

All submissions to this newsletter should be uploaded to the LIAUG BBS (516-837-1455), brought to the monthly meeting, or mailed to P.O. Box 621, Rocky Point, NY 11778. ASCII text files, with no special formatting are preferred. Disks may be either 5.25 or 3.5 inch ATARI format. Please include return postage with disks.





## SUB BATTLE SIMULATOR

Epyx Inc.  
600 Galveston Drive  
P.O. Box 8020  
Redwood City, CA 94063  
\$37.95.ST

*Reviewed by Rich Schmitt*

After my third crushing defeat tonight (have you ever sunk a sub?), I finally decided to sit down and write a review to let the rest of the world know what has been occupying my time lately. The newest entry for the ST from Epyx is Sub Battle Simulator (SBS from now on), a war-time submarine simulation (World War 2, 1939 to 1945). SBS comes from the new Masters Collection by Epyx and it is most definitely a masterpiece. The layout, game play and scope of this game blows any competition out of the water.

To whet your appetite, we'll start right off with the game screen. Although not realistic, this screen is very well designed and easy to get used to after a few tries at commanding your sub. Don't be put off when I say 'not realistic'. There is no central control panel in a real submarine, which would make it quiet hard to duplicate on a computer screen. SBS does a fine job of giving us a game screen that is both functional and easy to use. On the left side of the screen, about a quarter of the screen width, is a set of four gauges. Starting at the top, there are the view heading, movement heading, speed and finally depth. The difference between view and movement heading is that you can look in a different direction than you are moving. This comes in handy when you can't surface, your sonar is out, and you KNOW there's one more destroyer out there looking for you.

On the lower quarter of the screen, horizontally, is the 'Control Panel' or command buttons. These control such things as diesel or electric engines, diving or surfacing, periscope up or down and the firing of forward and aft torpedoes, the anti-aircraft gun

and deck gun. The scope height is given in feet and there are readouts of how many torpedoes and gun shells you have left.

Just above the command buttons is a small box called the 'Crew Speech Display'. No, this game doesn't talk, but the crew will send you all kinds of helpful information about what you've fired, how many days you've been on station, what your position is, if you're in shallow water and, of course, when you can (should?) abandon ship. This is a good place to keep an eye on in battle for vital information and damage reports. If you get caught in a heated battle with two destroyers, the messages can really fly by. If you're not careful, you may just miss the important damage control messages that will let you know when it's a good time to duck and run (if your ballast tanks and hull are still in one piece!).

Next is the most important part of the game screen, the 'View Display Window' in the upper right two thirds of the screen where all the action takes place. Here you can see the view through your periscope or from the tower, with or without a seven times magnification. Sometimes it's fun to just watch the small islands in the Pacific roll by in the waves, usually to find a destroyer or whole fleet on the other side! You also get to see the fighters and seaplanes swarm in on you from the carriers or ground bases. A very unique view from here is the side view. This allows you to see the action from either the left or right side of your sub. It's great to see those destroyers dropping depth charges on top of you when your engines are out, ballast tanks destroyed and hull gone...

As long as they're not damaged, here is also where you get the radar and sonar views. The radar was a slight disappointment as it's not a very realistic display. It may be round, but the sweeping line moves far too slow and the ships within its 25 mile range are always visible. That's an advantage really. The sonar

does a nice job of being more realistic in its six mile range, showing white lines pointing to all the enemy ships with your sub positioned at the center. This can get quite confusing if you're in the middle of a convoy (which isn't wholly recommended in the first place). In actual play, the radar isn't really needed and only works while you're surfaced. The sonar does have some use, but in both cases the map display does a better job than either one.

The damage to your sub is all important in this game (and you'll have a lot of it). To check on the status of your ship we go to the 'Status Readout' screen. Here is all the information on your sonar, radar, torpedo tubes, guns, engines, batteries, hull, ballast tanks, position, weather, time, date, etc...etc... Damage can usually be repaired during your voyage and is given in how many hours it takes to make the repair. Parts of the sub can be damaged beyond repair or destroyed though. In that case, it's off to the nearest port. You'll need this screen often during play. Engaging an enemy patrol boat with damaged forward tubes is lethal (and not to the patrol boat!).

The map display is where this program outshines any other game program I've yet seen for the ST. You actually have a finely detailed map of the entire world at your disposal. In the Pacific, you get to (have to) sail around multitudes of tiny islands, chasing (or being chased by) ships or convoys. You usually start the game in one of the ports in Australia. Yes, in this game, there are many ports that you can use to repair and refuel your sub. The map has five magnifications from 2000 miles down to 7 miles. The 2000 mile mode is just plain beautiful (unless you're in between all those tiny islands) while the 35 mile and 7 mile modes are used for combat. That's why you don't really need the sonar or radar. The map display actually does a better job.

Now, why do you think I specifically mentioned the Pacific map up there? Maybe





because you are NOT limited to the Pacific! SBS will also let you play a German U-boat commander in the North Atlantic! The map here is just as detailed and if you could find a sub with enough fuel, you could actually sail all the way to the shore of the U.S.

The play options allow you to target practice against a single convoy (some practice, they shoot back!), play a single mission in either the Atlantic or Pacific, or play a 'Wartime Command' that starts you off at the beginning of the war, and play all the way to the end of the war! This is another highlight of SBS, you don't just hop into your sub and go search for an enemy convoy, you have to accomplish specific missions given to you by headquarters. These missions can be anything from seeking out a large convoy, just sitting at a specific location to see if something comes your way, to running over to a quiet little island to pick up a few fleeing generals for delivery to one of the local ports. If you don't accomplish your mission, you may either receive a simple poor rating (affecting your score) or completely lose your command, which also ends the game. There are 24 American and 36 German missions, enough to keep any wargammer happy. If you choose a single mission, you also get to choose the year during the war. For America, that's from 1942 to 1945. For Germany, it's from 1939 to 1945. This also affects the type of sub you will have. After all, it would be cheating if you could take a German Type XXI (1945) into the Pacific theater in 1942.

The game play itself is very good. All controls can be activated either with the mouse, on the control panel or through drop down menus, or by keystrokes. Luckily for us all, Epyx was kind enough to have included a very nice command card. It requires quite a bit of study itself as there are a LOT of commands to this game. The only minor complaint I have with controlling the game is that keystrokes and mouse clicks can sometimes be slow in registering.

This minor inconvenience is quickly forgotten by the third or fourth game however.

The details of this game are incredible. As I said before, you actually see the planes and ships attack. You see your torpedoes speed out to meet enemy ships and see the explosions of the torps and guns when you're lucky enough to score a hit. All of this as islands (small and large) pass by in the background. That's hopefully in the background, because if you're not very careful, it's quite easy to run aground and lose your ship. That's where you have to keep an eye on the messages from your crew.

The numerous options available make this game both entertaining and realistic. You can easily switch all the different views, match your view with the movement heading (and visa versa), dive, surface, charge the batteries, get a full status window, deploy mines, show your coordinates, set for silent running, send an S.O.S., radio your position back to headquarters in case you have to abandon your ship, transfer torpedoes from back to front or front to back, send out a shore party and on and on.... The details such as radioing your position, which helps save you, if not your ship, make this game much more enjoyable than any of it's competition. That's also how you get your orders, by radio (even in morse code). Good use of this radio may just save your command if you do lose your ship, allowing you to continue a war time command.

To be honest, the keyboard commands are very difficult to use at first. But that is only because almost every key is used. That's how many commands are available to give you an idea of the scope of the game. Luckily, the mouse is much easier to use and can be used for almost all the commands, except for the map displays. After only a few short games the match between the mouse and keyboard becomes quite natural and the quick reference card is no longer even needed. That shows a well designed game.

The instruction book is only 32 pages long, but gives all the information you'll need to save the world in the short course of the war. Good descriptions of both the American and German subs are given, along with needed strategies to beat the big convoys. Good explanations are given for all game screens, including pictures so you know what you're looking at. Even the drop down menus are fully explained in function. Nine pages of the book are devoted to in-depth explanations of all the command keys, accurately called a 'Help Reference'. Then comes the all important weapons information. Did you know that an 'S' class American sub has a three inch cannon with a range of 10,000 feet and carries Mark 10, steam propelled torpedoes with a range of 10,800 feet that have a speed of 36 knots? You will know (and better!) after a few short games.

I'd like to give new player a very valuable hint, along with one of the games best features. You can save your SBS game anywhere in play! It's about time we had a game save feature in one of these simulations. And that's the hint. Just as with any good adventure, save your game OFTEN! You can never tell when a couple of destroyers, well armed and with an experienced Captain, will sneak up from behind and prematurely end your game. If you have it saved, you can very easily reload it and have a second (or third?) chance at winning the battle. With this strategy, I have managed to make it to my sixth mission in the Pacific after only three or four full games of play.

All is not green in sealand however. My biggest complaint about SBS is the extremely heavy copy protection employed by Epyx to 'protect' their program. From friends who have also bought the program and the store I bought mine, I have found that many of the disks simply fail to boot properly in certain ST drives. This may, or may not, be the cause of a few bugs encountered in the program. I have had it crash on me for no reason. I have





submerged to periscope depth, only to find the computer thought I was still on the surface. The gauges all said I was 28 feet down, but the destroyers knew I wasn't, and consequently blew me out of the water. The program also has a tendency to distort the map and create new land masses in the middle of clear water. If you don't notice this, you run aground and the game is over. In all cases, if you manage to save your game, or have previously saved it, then quit and reload the saved game, all plays normally from then on. Now let's hear it for copy protection!!! Oddly enough, SBS does NOT autoboot into the game. You have to click on the program to run it. I suppose they're still trying to keep compatible with the older 520's that did not have TOS in ROM. This is really just a minor inconvenience though and is common on many programs.

In this review I have called SBS a game, only because overall it really is, and it's much easier to type than 'simulation'. But don't look at SBS as a simple arcade game. It most definitely is not. Sub Battle Simulator is without a doubt an exciting, edge of the seat, difficult submarine simulation that will give a very long term of enjoyment (or is that frustration?). I could not possibly have included all the features of this excellent program in a review intended for publication or BBS. You have to see this program to believe it. We now have a new simulation that is the 'Standard' everyone else will have to try and beat. Even with my few quibbles I put Sub Battle Simulator in the category of one of the few programs that should be in every ST owners library. This simulation won't let you down, unless, of course, you sink.....

#### Racing Destruction Set

Electronic Arts  
2766 Campus Drive  
San Mateo, CA 94403  
\$14.95, Disk

Reviewed by Neil Trent

Don't get the idea that this is just another one of those crash 'm up games where you just race around the track over and over until you win the race or get bored. EOA took a racing program but added the EOA touch to it. First, you can select your own car, engine, and tires. You can even change the gravity and the scenery. And racing is a real thrill with split-screen. And there are whole disk full of different tracks. The tracks are fantastic, you can have a single lane U-turn on ice right before a big jump. And of course the main feature is that you can even make your own! The process is a little difficult but after a few tracks you get used to it. When you get bored of racing around, on thousands of different tracks, you can change the "rules" to destruction. Here, you can add armour, crusher, land mines, and oil slicks to your car. But be careful with those land mines, if you go over your own you'll be blown just as quick as your opponent. Overall, I'd say this program deserves a definite 4 3/4 out of 5. It could stand a little in graphics, but besides that it is the best racing program around!

#### MEGAFONT II+

XLent Software  
P.O. Box 6228  
Springfield, Virginia, 22150  
\$24.95

Reviewed By Mark D. Clochetto

Here I am to tell you that there is a printer utility that I really LOVE. The program that I am referring to is MEGAFONT II+ by XLent Software.

Ever notice that when you're working on a program and you want to list it to your printer so you can look it over but you can't. Well Megafont II+ will let you print that program to the printer. Not only that but you can use different fonts and you can choose a print size too. I myself use it to address envelopes with either a Roman font or a Gothic font. It really adds a bit of class to the printing. It also

has another feature that is nice, if you own an Epson FX-80 or a Panasonic 1092 printer you can download a custom character font to that printer and the font will stay with the printer until you turn it off. In other words if you wanted to print a letter using a custom font just download it to your printer and boot up your word processor and you're all set. Also being that some of the new printers are made for light duty you can also pause the printing and resume or you could even abort it.

So you're probably saying to yourselves, "that's all", well that's the first part of the program. The second part of the program is a Graphics 7+/8 dumper. Okay there's a lot of screen dumps on the market but listen to these features. You can print normal or inverse pictures, it has 4 different print sizes (3 with the Prowriter/Nec version), a left margin adjust, bold face print print page 2 option and picture type. What I mean by picture type is that you can dump a graphics 8 or Micro Illustrator compatible file, Page Designer Top, Page Designer Bottom, Page Designer Full or Typesetter Icons.

Besides all those features I mentioned above the disk come with several different fonts, pictures and an ICON or 2. For my money I thought that this was one of the best investments I ever made.

CardWare  
PartyWare

HI TECH EXPRESSIONS, INC

2699 South Bayshore Drive  
Coconut Grove, FL 33133  
305/ 854-2318 or 1-800-848-9273  
PartyWare \$14.95 CardWare \$ 9.75

Reviewed by Horst A Dewitz

Did you ever wonder what are these plastic wrapped or cardboard wrapped inexpensive (matter of opinion) software programs are like? Were you afraid to talk about it? Well I am





not. Owning PrintShop, PrintShop Companion and Graphics Disks I still went out and bought CardWare. Being of an age where a few bucks are not that important and being that my ATARI is a hobby, what the heck, \$ 9.75 spent and home I went. Again I found out, that you get what you pay for. First almost no documentation. After I booted the disk I was pleased to see a three item menu: 1) **Musical Message** - requiring a blank formatted disk 2) **Card Maker** - requiring a printer 3) **Disk Maker** - could be used for duplicating your master disk, as DOS will not copy or duplicate for backup purpose.

Choosing #1 gets you to a submenu requesting name age and message. After fulfilling all requests, a disk is prepared with a choice of 4 pictures and a tune, Happy Birthday, you are then required you to mail this disk to the recipient.

Choosing #2 gets you to the card maker submenu: 1) 3 line message, 2) printer selection - submenu of printers, 3) size of graphics selection: submenu 1) full screen - choice of 3 pics: the village, the toy store, the baker. 2) 1/4 screen - press spacebar to see 4 pics, return to print choice. Choosing #3 lets you save previous selections (without telling you so!) and, in the process of saving, also creates a duplicate of the original disk. Concluding I must say that for \$ 9.75 you get almost nothing, no documentation and very little substance.

Next item, PartyWare. Included with CardWare was the usual advertising i.e. PartyWare, HeartWare, etc., there also was a special offer: for \$ 2.00 receive a free(?) Graphics disk. Ever so gullible I send for it, only to find out that, without PartyWare, I could not use this disk. So I went out and bought PartyWare. \$14.95 later and many tries down the road, since again we are lacking any decent documentation, I am telling you again, you get what you pay for. PartyWare has excellent menus and has a lot to offer. There are two disks in the package - PartyWare and Graphics ( in my case an addi-

tional Graphics disk). You have to swap back and forth as the program tells you to.

The menu features: **Guest list** - lets you make up a list of guests, giving you the option of printing the list, marking of invited and uninvited guests (which are not printed, giving you flexibility), clean list, keeping list up to date as well as many more options. **Party Decorations** - ranging from price ribbons to place mats (in paper of course). This section lets you use the guest list, created earlier, and have names printed on those placemats. The restriction there is, that you cannot control the amount of mats printed. You get as many as there are names. **Card Design** - lets you print invitation cards again using the guest list. If you choose to give a person a nickname in making up the guest list, this nickname will be printed instead of the regular name. **Disk Invitation** - you need a blank disk and of course friends that have ATARIS. With that established you then can send disk invitations. Last but not least, there is a toll-free number to call in case of problems.

If you feel that I contradicted myself in saying you get what you pay for and then point out all these features, which sound impressive, then let me point out these negative items: 1) Documentation is none existent with CardWare and almost none existent with PartyWare. 2) These programs do not run as smooth as they should. I did have lockups and I should have called the 800 number, I didn't. 3) No escape sequence, only rebooting, particularly in the printing mode. If everything was entered as requested by the menu, fine. But unlike PrintShop, for instance where ESC will get you back one menu, no such luck with CardWare and PartyWare. With all due respect I will say this about Hi Tech Expression Inc. My understanding is, that this company is trying hard to make it into the software market place. They have a new program out called AwardWare, nicely boxed (not a cardboard wrapper), which looks

a lot more representative, fair price too. I am also convinced that once you own a top flight program, you tend to look down.

In closing I like to say that I would not invest in CardWare but might invest in PartyWare. However, I will watch Hi Tech Expressions Inc. for future releases.

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Top Gunner

Micro Prose

*Reviewed by Mark Clochette*

Well here I am again with another one of my reviews. This month I'll review a program called "TOP GUNNER" by Micro Prose. Well let me start off that I did have a run in with Micro Prose software once before but I'm not going to let it effect my judgement of this product.

Anyway TOP GUNNER consists of three programs that were released previously by Micro Prose. The programs are HELLCAT ACE, MIG ALLEY ACE and AIR RESCUE. You could call this a greatest hits disk or a golden oldie disk.

HELLCAT ACE puts you in the cockpit of a World War 2 plane against the computers plane in 14 different scenarios. The instruction book describes each of these different scenarios which makes you feel like you're really there. I played this game a few times I found it quite boring because in the early levels there is no challenge. It was so easy that I said to myself "there's got to be more to it." I like it but it's too simple.

MIG ALLEY ACE puts you in the plane during the Korean war. As with HELLCAT ACE it describes each scenario. I like this by far because of it's split screen which allows 2 players to fly against each other. This is my favorite of all 3. Another option that I liked is you can also have wingmen. If you feel like a challenge you can fly against 3 enemy aircraft which is controlled by the computer or if you're a chicken you could fly with 3 plane against his one. You





of course only control one plane while the computer flies the others. I myself like the challenge so I fly against three.

AIR RESCUE is next on the list. I'd have named this my second favorite. In this scenario you have to rescue trapped archeologists from an underground civilisation. You think it's easy, no way because not only do you have to fly through these caverns but you have to fight enemy aircraft, dodge missiles and look out for those land mines. To me this is quite challenging and it took me awhile to get to the third cavern.

All three of these games were written in basic and then compiled into machine language so the graphics aren't the greatest but the game play is great. All in all I feel it's worth the money for the disk because 1) You get three programs for the price of one and 2) Owning MIG ALLEY ACE is definitely worth the price. The instruction manual for these games is complete and you really don't have to know that much to enjoy them but this is definitely worth it.

## REGENT WORD II

Regent Software  
7131 Owensmouth #45A  
Canoga Park, CA 91303  
(818) 882-2800

by Normand Brassard

(This review has been reprinted with the permission of the Faster Disk Magazine.)

After offering the Atari ST users several programs such as Regent Spell, Regent Word and Regent Base, REGENT SOFTWARE has now released a more sophisticated word processor, the Regent Word II.

The software comes on one disk, well packaged and with a short and concise, but accurate instruction book.

After booting up Regent Word II and without even reading the document (which is something that, of course, became very useful later), I noted

the simplicity of the program and its user friendly quality. I loaded an old ASCII file on it, to realize that a nice standard format took place on the screen with a 5 spaces left margin and the old right margin preserved.

I started editing the text to immediately appreciate the incredible speed of the EDITOR, scrolling up and down as well as deleting and moving words and large blocks. The speed at which these operations took place, I had never seen before on the ST and this, I thought was the first major advantage of Regent Word II.

So after reading the instruction book, I discovered and explored the second big quality of the software, the use of a buffer system where it places the blocks and then deletes them or replaces them in the new selected location on demand.

I found this use of the buffer a great advantage for the situations where changing location of a block or multiple re-copying of the same block was necessary.

The third major quality is in fact its footnote capacity, top or bottom page or right in the text. I found this application a very useful feature that has not been available on a simple fully GEM supported Word Processor on the ST yet.

Regent Word II also offers a large selection of printer drivers immediately available at the click of the mouse from the print drop menu.

An impressive selection of "19+1" printer drivers is already supplied with one "other" for non standard printers. Also, the option of changing or creating a driver is supported.

Furthermore, Regent Word II is also file compatible with Regent Base and a mail merge capacity comes as a great asset to the software.

The word processor, in spite of its exceptional simplicity, comes very complete with full information on board, like word count, pages and lines, a document save option in ASCII or Regent Word format, an editing menu with insert mode, type over mode, a block editor

with copy, move and style and the document rulers at the top of the first page, releasing the informations on the status of the document formats (margins, page breaks, headers and footers and justification on or off).

The Search drop menu is also available with the search and replace options for one or many words. Also a Special drop menu is found. This provides several useful options.

A 30,000 words spelling checker is included as well as many other interesting additions like a basic calculator, a help function as a commands definitions reminder and keys for each function, a unique alphabetize function to put names or items in alphabetical order and a go to line # function for programmers.

So, you can see from the description above, that Regent Word II is undoubtedly a step forward in the field of word processing on the ST.

In spite of that fact, it is not free of weaknesses. For instance, the one complete crash that occurred while editing and using the back space key at the same time as the mouse could not be explained and we must confess that we could never repeat the incident.

Another point that could be considered weak is the absence of support for graphics, but this can be qualified as a little beyond the purposes of a word processor. It would still be a considerable asset to the software.

Finally, Regent Word II doesn't support ASCII code characters like "ESC" codes. However, aside from these little inconveniences, the program is certainly a first choice for a day to day high quality word processor.

Hopefully, you can draw your own conclusion from this review. I haven't tried to describe here every feature of Regent Word II, as the instruction book that comes with the software serves that purpose well. I have simply insisted on the features that have impressed on me the most, and I'm aware of the incompleteness of the description. -





Try it and see! It may very well prove to be the word processor YOU are looking for!

## REGENT BASE

Regent Software  
7131 Owensmouth #45A  
Canoga Park, CA 91303  
(818) 882-2800

by Serge Vallancourt

(This review has been reprinted with the permission of the *Faster Disk Magazine*.)

REGENT BASE just became the fourth database that I have used (or tried) on the ST. The first was the obvious DB MASTER ONE, given to me with the purchase of my 520 ST. Even though it used the GEM features, it quickly found its way into my "archives". Not that it was unusable, but mainly because it didn't match my needs. The second was H & D BASE. This one is close enough to a professional database and what's more, it is very similar to DBASE II that is so well known in IBM circles. Not bad, but the first versions were buggy. DB MAN is the third, a DBASE III clone. "Now, here's something interesting" I said to myself as I adopted it.

The first things I look for in a database are:

- Ability to work with many databases simultaneously;
- Inter-relation capacity between databases;
- Ability to create procedures;
- Printed output format editing and designing;
- Possibility of saving variables.

DB MAN satisfies all these requirements. REGENT BASE is not as flexible but nevertheless includes a good portion of these features. AND it's much easier to use.

On the plus side, REGENT BASE runs under the GEM environment and even the user created databases can make use of GEM (mouse button). REGENT BASE then allows for a better screen layout and a much improved working space for the end-user.

Another plus for REGENT BASE: it has its own integrated text editor. With DB MAN, we have to use a separate editor. To run a program or procedure, one must load DB MAN in memory and then run that program or procedure. If there was an error, you have to load the editor, make your corrections, re-load DB MAN, re-run, etc... With REGENT BASE, after you've written the program or procedure, you can call the processor and run the program immediately. In the case of an error, REGENT BASE brings you back to the editor with the cursor resting on the mistake.

## THE PACKAGING

REGENT BASE is sold with a 163 pages manual in a 9" X 8" binder, which is very convenient with an inside pocket where you find the REGENT BASE diskette. The diskette contains the REGENT BASE programs as well as two complete applications that may be used as tutorials, but since they're so good, they will be very practical for some users.

## THE MANUAL

The manual is split between three chapters and the index.

The first chapter called "GETTING STARTED" gives the information needed for a first run of REGENT BASE. It also contains a mini-manual for each one of the applications included in the package.

The second chapter called "LEARNING THE BASIC SYSTEM UTILITIES AND PROGRAMS" shows the user how to use each of the REGENT BASE work environments. It also explains the file structure layout.

The third chapter describes the command set in detail.

The manual is written in a reference book form (except for the first chapter) and those looking for a tutorial in the book will be deceived. People who have never used a database will have to read certain passages a few times and maybe even look for other information sources. But in general, the various items in the manual are clearly identified and you won't need to look around for a day and a half to find a

desired passage.

## THE FORM EDITOR : AN INTERESTING TOOL

The FORM EDITOR allows you to create or modify the database templates and the commands needed to activate it. The FORM EDITOR is made of two parts; one for creating fields and for the screen presentation, and the second which is nothing more than a text editor used to create the programs and procedures.

The first part is called the GEM OBJECT EDITOR and is used to create the design and the contents of the file. There are drop menus containing the various editing tools such as CUT, PASTE, the file manipulation tools, LOAD, SAVE. A sub-menu for designing the screen output contains the text effects and colors tools. Another sub-menu allows you to move between both parts of the FORM EDITOR.

The fields are edited with the help of the mouse to select the type of field (by clicking), position the field (by dragging) and to select the width of the field (by stretching the field's box).

## THE FIELDS

REGENT BASE allows for three types of editable fields:

- numeric fields;
- alphabetic fields;
- date fields.

This is standard and is suitable for most applications.

Also while editing the file, on top of having editable fields, REGENT BASE offers three extra field types:

- Comments;
- OUTPUTS;
- MOUSE BUTTONS.

The OUTPUTS are used to print a message during the execution of the programs or procedures. The MOUSE BUTTON lets the user execute various tasks simply by clicking in the appropriate box.

The fields cannot exceed the length of a line. This is a minor inconvenience, but still a very small one.









owards library purchases.

Talking about disk library, they are strictly a NON PIRATING organization. Copyright laws in Germany are similar to ours, if not stricter, and they abide by those laws. Library disks sell for about \$ 4.15, however, I do not know what shipping would cost at this point. Remember that we are in the beginning stages of our exchange. They have around 50 disks in their library.

BIT BYTER club is, as far as I understand it, the largest of about 28 users groups in Germany. They are not ATARI affiliated, but ATARI recognized.

Another item of interest, the BBS. This should make us appreciate things we take for granted. The German Postal Service is in charge of all telephone operations and is a branch of the federal government. They govern all operations much like our Bell companies. Because of a hardware deficiency on all ATARI 600,800,XL and XE's they will not issue a license to direct connect a modem, only acoustic couplers are permitted.

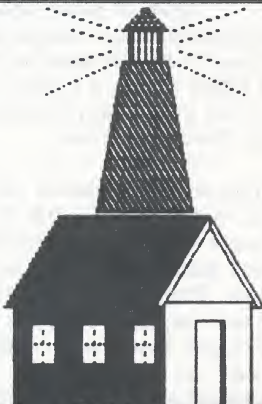
Do you think you have problems?(Choosing a modem - 300 or 1200 baud - plug in or hardwired - ATARI interface or someone elses etc.). It is refreshing to hear how other people struggle with their hobby and to learn about their trials and tribulations. Which also brings us right back to the evolution of exchanging ideas and the hole purpose of getting in touch with none american users groups. One can learn so much from people in foreign lands and this in turn makes us appreciate our way of life even more. Besides our agreed upon club exchange and the possible exchange of addresses, one could become a member of the BIT BYTER CLUB E.V. Again address all inquiries to me and please include a stamped, self addressed envelope. I will try to answer as quickly as possible.

Translation of these disks was considered by me, however the job is to extensive and my time is rather limited. I will make myself available at meetings, to help with some programs, that have baffled you, may be in form of a foreign language sig.

Having presented all the material and information available to me, and having expressed my thoughts and opinions I like to close with this short lecture:

Belonging to a users group involves more than looking at several demos and the president (his wife is better looking anyway), it means active participation; let us see you spring to life - present your programs, no matter how good or bad they are - make a speech - write an article - show of your hardware invention or modification - don't be shy! Thank you.

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# Cartridge Port Modifications

by  
Anees Munshi

The Atari ST's 128 Kbyte read-only cartridge port can be transformed into a 64 Kbyte read/write port by using this circuit.

This article contains a schematic of the circuit, source code for an assembly language program to read and write to the port (listing 1), a C source code test program (listing 2), and the equations to burn the PAL (listing 3). (The programs are also available in the LIAUG disk library.--Ed.)

Writing to this port is slower than reading it by a factor of two, approximately. It can be written to at a speed of 76 Kilowords per second. This interface can be built by using only three chips, two AS-TTLs and a PAL -- a total parts cost of less than \$15.

## How It Works

### Background Information.

The ST brings out 15 address lines (A1-A15), 16 data lines (D0-D15) /LDS, /UDS, /AS, /ROM4 and /ROM3. (A preceding slash indicates an active-low signal.) Of these signals, /UDS, /LDS, and /AS have the same meaning as they do for a 68000 CPU. A1-A15 are the least significant 15 address lines. D0-D15 are connected internally to the ST's data-bus. /ROM3 and /ROM4 are generated by the MMU and are output signals which tell the external hardware which of the two banks is being addressed. /ROM4 is activated when the 68000 tries to read address 0xfa0000-0xffff. /ROM3 is activated when the 68000 tries to read address 0xfb0000-0xffff. (Note that the names of these signals are counterintuitive; ie. they have been correctly written above.)

### Caveats

Any and all hardware

connected to this modified port must be fast -- fast enough to run with no wait-states and fast enough to tolerate the decoding delays introduced by this circuit. I've used 200ns static RAM chips without any trouble. It is advisable to use /ROM4 to time any external hardware you build (in preference to /AS), since /ROM4 contains the necessary delay to ensure the addresses are stable when it is activated. (At least this is what I assumed, and it worked.) The data for write operations is produced by the two AS-TTL latches used in the circuit (see below.) I used AS374s, you can use AS or FAST. High speed chips are necessary so that delays from /OE (latch output-enable) to valid data are not critical. You could possibly get away with ALSTTL, but I haven't tried this.

## Operating Principle

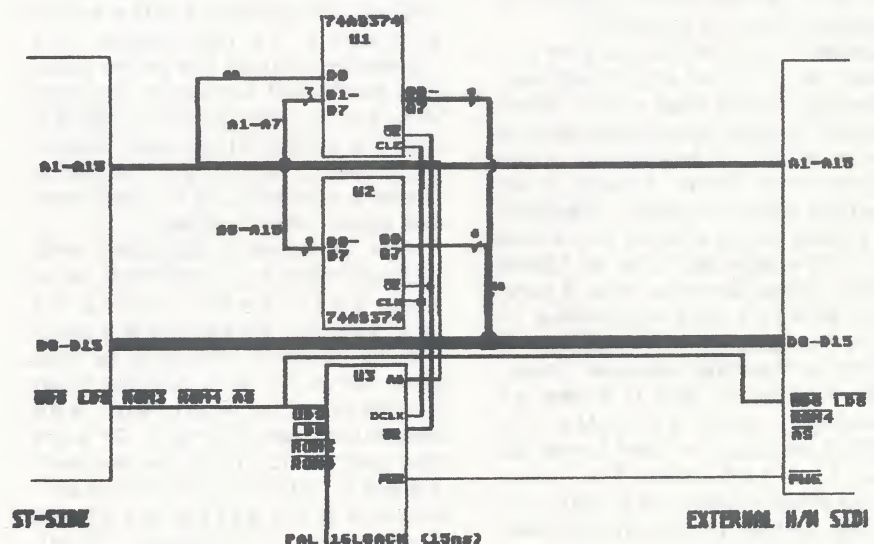
The PAL contains an asynchronous finite state machine. When the upper bank (address 0xfbxxxx) is read, the PAL manufactures an A0 (based on the state of /UDS and /LDS) and supplies this to U1. At the end of the read cycle, U1 and U2

are clocked to latch the least significant 16 address bits into the PAL. Subsequently, when the lower bank is read (address 0xfaxxxx), the latched address (which was latched in step 1) is supplied as data and /PWE (the write-enable signal) is activated (it goes low). /ROM4 active should tell the external hardware that it is being addressed, and /PWE active should tell it that this is a write-cycle. As an interesting side-effect of this design, the data word written out is read back by the 68000 (you can use this fact to debug the interface).

Reads to the upper bank will return garbage unless some ROM is present there. Multiple successive reads to this bank will not be harmful (ie. they will not confuse the state-machine) and the latest address will be latched preparation for a read to the lower bank. Note that if you put RAM in the upper-bank you will not be able to write to it. Connecting the /PWE line to such RAM will have no effect. Putting a ROM in this address space should not create any problems (although I haven't tried this).

Example: To write data 0xcd01 to address 0x3bc0 in the lower bank, the following steps are performed. step1, read byte at address 0xfbcd01 (0xfbd0000+data). step2, read word to address 0xfa3bc0 (0xfa0000+addr).

Cont. on page 24







up over the table. At about this time."

"I can imagine."

"We went through the whole packet like this. Him, me, him, me..."

"The WHOLE packet?"

"Well, it was only eight biscuits, but it seemed like a lifetime of biscuits we were getting through at this point. Gladiators could hardly have had a tougher time."

"Gladiators," said Fenchurch, "would have had to do it in the sun. More physically grueling."

"There is that. So. When the empty packet was lying dead between us the man at last got up, having done his worst, and left. I heaved a sigh of relief, of course."

"As it happened, my train was announced a moment or two later, so I finished my coffee, stood up, picked up the newspaper, and underneath the newspaper..."

"Yes?"

"Were MY biscuits."

"What?" said Fenchurch."

"WHAT?"

"True."

*'What Adams said in Berkeley, but omitted in the book, is that somewhere in England there's a guy who has exactly the same story -- but Adams has the punchline.'*

In your works in general, how much would you say could be construed as a personal joke, or something that actually happened to you or somebody else that you wanted to get into print for, say, the specific purpose of amusing them or yourself?

Adams: I put the biscuit story in there, as much as anything else, because I hoped that once it WAS printed people would stop asking me to tell it. It happened in the summer of 1976. I told it on English radio in 1978. Because I've told it an awful lot since then, it's become one of those apocryphal stories, you know, that always was supposed to have happened to somebody's sister or brother-in-law. And I just wanted to get it down on record -- well actually it's Arthur saying it -- that I was the one it happened to. But otherwise, there are bits and pieces that go in which ARE sort

of little personal jokes, but they're usually very, very tiny -- they HAVE to be: you CAN'T put in something that most of the audience will feel "There's something here I don't understand, and I have the feeling I wasn't MEANT to understand it." That's a very arrogant way to treat your audience. So if I put in a detail just to amuse a couple of people or myself, then it's usually something where there would HAVE to be something there anyway -- as a little bit of background color, or whatever -- and maybe I'll make it so that anybody who knows will see that there's an extra little joke there. But you musn't do something which other people will feel

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HITCHHIKER in many ways borrows its form from one of the oldest forms of literature, the Everyman story -- the innocent guy who gets thrown into a strange world.

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excluded from. For instance, in RESTAURANT AT THE END OF THE UNIVERSE there is this dead rock star called Hotblack Desiato.

Now, that's a good name for that character. But it's also the name of a firm of local real estate agents near my home. So if you happen to know the part of London where I live, that's a rather astonishing joke when you see it as the name of a character. But at the same time, you don't feel excluded, because there's no reason to THINK there's something else there. This way, you don't KNOW there's something there, over and above what you see.

Antic: In terms of SO LONG, AND THANKS FOR ALL THE FISH, were you getting all sorts of "personal" questions about Arthur Dent's life and is that kind of why you wrote that chapter where Arthur and Fenchurch "go flying"? Or were you just having fun? Or neither?

Adams: Both and neither. People HAD asked me those questions and I thought, "Well,

I'll have a go, see if I can make it work." And I'm not sure if I did.

Antic: Also, was it intentional that Arthur Dent's initials would be the same as yours, but flipped the other way?

Adams: NO, it wasn't at all.

Antic: Hadn't even occurred to you?

Adams: No. There are all kinds of odd things about his name. I wanted the name to be, on the one hand, perfectly ordinary, but on the other hand, distinctive. "Arthur" is a name like that -- it's not like Dominic or Sebastian or something obviously very odd or even affected. It's a solid, "olde English" name that's perfectly ordinary, but not many people actually have it. There was a character at school called Dent. It just seemed to have the right ring. And also, I suppose, because Arthur was very much somebody TO WHOM THINGS HAPPENED -- somebody who REACTED to things that happened to him, rather than being an instigator himself -- he seemed to be a "Dentish" sort of character, and that was partly in my mind, so that's really how the name came about. But then there was an EXTRAORDINARY coincidence: I got a letter from a researcher in English literature. He was studying the English Puritan period, with specific reference to John Bunyan and PILGRIM'S PROGRESS. HITCHHIKER in many ways borrows its form from one of the oldest forms of literature, the Everyman story -- the innocent guy who gets thrown into a strange world -- going all the way back from the Everyman plays, the mystery plays, then, slightly further forward, GULLIVER'S TRAVELS and so on.

Antic: THE PRISONER, for that matter. Patrick McGoochan said the same thing, in fact. His production company is Everyman Productions.

Adams: But then PILGRIM'S PROGRESS is another clear example of that. So this guy drew these comparisons, and then he came up with this EXTRAORDINARY thing: there is one book that Bunyan is known to have read -- now, obviously he read hundreds, thousands of





books, but there's one book we happen to KNOW he read because he made a note in his journal about it. It was called -- and you'll see the parallel in the title -- THE PLAINE MAN'S PATHWAY TO HEAVEN, written by an English Puritan writer called...

Antic and Adams: Arthur Dent. Adams: Right. And when he stumbled on this, he assumed -- he instantly LEPT to the conclusion -- that I had deliberately made this extraordinary, involved academic joke. He went through THE PLAINE MAN'S PATHWAY TO HEAVEN and teased out all the parallels between the two books, and he sent me this LONG dissertation on this "joke" that he discovered I had "created." I had to write back and say, "I'm sorry, I've never heard of this book." Later I came across an old, old copy of ROLLING STONE. There was an interview with Bob Dylan, and he was quizzed over and over again about the meanings of his lyrics and whether he was referring to the I CHING or the BOOK OF THE DEAD, or the Tarot pack -- and he was saying "No, I did that line because it rhymed," you know? I knew exactly what he meant, but it was completely opaque to the interviewer, who was determined that there were all these levels of concealed literal meaning which really weren't there at all. Now, when Dylan said "I did it because it rhymed," he wasn't in fact saying "That's all there is to it." You cannot necessarily seek or find what is communicated by a piece of writing by trying to discover other literal meanings buried inside it. The fact that Dylan would write a line that sounded good is not in itself saying that that isn't actually an excellent thing to do, and the reverberations of the line and WHY it sounds good actually MAKE it good. But it doesn't add anything to say, "Well, if you can explain in terms of the BOOK OF THE DEAD or I CHING, then you've achieved something more."

Antic: How did THE MEANING OF LIFF start, and do people KNOW about it?

Adams: It started even earlier than I thought it started -- when

I was 12, my English teacher gave everybody in the class the name of a place and said, "Okay, I want you to see what kind of word you might think it would mean." We just did that in one lesson. I thought that was great, I loved that. Years later, I was in Greece with friends, including John Lloyd. To begin with, we were playing charades. After a while, because of the amount of retsina we'd drunk, we needed to find another game that didn't involve so much standing up. So I suddenly remembered this thing I'd been given to do at school, you know, finding definitions of place names, and both Johnny and I had always shared a great fascination with words. So we

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or find what is  
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---

started making some up. I can remember some of the ones from that day, such as "ely," which is a cathedral town in East Anglia. An ely is the first inkling you get that something somewhere has gone terribly wrong. And a "wembley" is the moment of realization that the disaster HAS struck. Oh, and there's "woking," which is standing in the kitchen wondering what you came in here for. Anyway, we wrote down a whole lot of these. Johnny went on to become a television producer, and he started NOT THE NINE O'CLOCK NEWS on English television. When he was doing a book based on NOT THE NINE O'CLOCK NEWS a few years later, he found, in the bottom of his drawer, all these things we'd done and put them in the book. They were just page fillers, but they turned out to be the most popular part of the book. Then the format rights to NOT THE NINE O'CLOCK NEWS were sold to American television, where it became NOT NECESSARILY THE NEWS. Now,

the "Liffs" never featured in the television program of NOT THE NINE O'CLOCK NEWS in England, but the producers picked up these things and incorporated something similar in the American version of the TV shows called Sniglets. Later, because that had been such a successful part of the NOT THE NINE O'CLOCK NEWS book, Johnny and I decided to do a book entirely devoted to these things, and came up with THE MEANING OF LIFF. We wrote several hundred "Liffs." Meanwhile, SNIGLETS came out in America, and I have to say -- and this is very easy for me to say and very obvious of me to say it -- I did not think the SNIGLETS book was as good. To my mind, there's a certain purity about NOT making up the words, but just taking them from the gazetteer. A word that already exists, even if it's a place name, has a sort of integrity to it, in away, such that if you make up a word AND the definition, it all seems to be very woolly. Whereas if you take a word which so far has been sitting on a signpost and give it some other meaning -- maybe I'm being slightly pedantic here, I don't know, but I prefer that way of going about it. Anyway, my American publishers decided to bring out THE MEANING OF LIFF over here. I don't think it was done very well, I thought the cover looked like a cover from a remainder shop. I don't think they packaged it right at all. Nobody over here seems to know about it, which is a shame. It's funny, because when I was on the DAVID LETTERMAN show, Rich Hall was also on it, and I hadn't realized at the time that he had been responsible for SNIGLETS. Because I know that it was a huge best seller, I felt a little bit aggrieved, you know, that THE MEANING OF LIFF had completely disappeared over here, and I thought it was better -- not only better, but also the original. I felt particularly aggrieved when the few people who came across the book over here asked me if I'd stolen the idea from SNIGLETS -- when it was exactly the other way around.

Antic: People really do think it





says "Life," and they figure "There's already been a MONTY PYTHON book like that -- this must be the hardback."

Adams: Yeah, in fact it was also an awkward coincidence that the PYTHON film was called THE MEANING OF LIFE. Some of the Pythons are old friends of mine. But we'd spent ages, Johnny and I, trying to find the right title for this, and we finally came up with THE MEANING OF LIFE -- I don't know that it's a great title, I quite like it -- and it was very shortly after this that the Pythons decided to call their movie THE MEANING OF LIFE. I thought, "Oh, \*\*\*\*it's all going to get confused." So we tried to think of another title. Well, even though we'd got there first, the movie was going to be coming out first. We just couldn't think of a better title, so we just stayed there. And, yes, there was a certain amount of confusion.

Antle: Are you MAKING money off it?

Adams: In England I think we sold about 150,000 copies. Over here I think we sold about 150 copies.

Antle: What exactly was your involvement -- I saw your name credited in one PYTHON episode in the last series, without John Cleese.

Adams: Oh, right. Yes. That's very observant of you -- now what was that? That was when I'd started working with Graham Chapman -- yeah, I'd forgotten all about that. I'd got to know Graham, just vaguely, because there'd been a show in London of the current crop of Footlights, which actually wasn't very good, but I had some material in it. I'd written or co-written one or two sketches, one about the annual general meeting of the Society of Paranoiacs, and Graham saw the show on opening night. I got chatting to him because he liked some of my sketches, so we had a few drinks and he said "Come and have a chat sometime." So I went round to see him and had a few more drinks. He'd was rewriting a sketch that Michael Palin and Terry Jones had written. I think Graham was feeling slightly sort of at a loss, because he ALWAYS had written

with John Cleese in the past -- they wrote as a team. So he had to write a lot by himself, and he didn't take too naturally to that. And he said, "Look, will you help me rewrite the sketch, see if you've got any ideas?" So that was that. I can't remember what it was, actually. I don't think it was the world's greatest sketch. Oh, there was something about private medicine I seem to remember.

Antle: Have you had anything else published?

Adams: Actually, there's one thing I've published in England last year called THE UTTERLY, UTTERLY MERRY COMIC RELIEF CHRISTMAS BOOK. I know there's an organization over here



called Comic Relief, and there's one in England too, but there's absolutely no connection between them whatsoever. The only reason they have the same name is that it's a rather obvious name to come up with. And the object is exactly the same: raising money for Ethiopia and the Sudan. A good friend of mine, Richard Curtis, a comedy writer in England, went to Ethiopia and the Sudan in the wake of Bob Geldof's extraordinary efforts and determined that just as the music business had done its bit, so the comedy business should do its bit as well. So he rallied us all together. Some people went and did a show, other people did a record. I was volunteered to edit the book. I wrote a number of things in it, and what I like best was a short story I had written as a sketch with Graham 10 or 12 years ago on the private life of Genghis Khan. I also wrote a HITCHHIKER short story for it which wasn't very good. In fact, I think Crown has come out with

another compendium with all four HITCHHIKER books -- it may not have come out yet, but it's in the works -- which has that HITCHHIKER short story. But the Genghis Khan story I was pleased with -- it was very silly. It also had a guest appearance from Wowbagger the Infinitely Prolonged 'From LIFE, THE UNIVERSE AND EVERYTHING'. I don't think it will be distributed out here, because most of the contributors, other than myself and a couple of members of the Python team, who are known out here -- are major comedy stars in England who are not known in America at all, so I don't think the thing would sell so much over here. One group called the Young Ones, who appeared on MTV, I believe, do sort of punk alternative comedy kind of stuff -- extremely rude. In fact, because of their contribution to the book, we nearly got sued for criminal blasphemy. But maybe it could come out over here. I'll make sure to look into it.

Antle: I know that you had dealt with the Footlights: did you perform, and have you ever performed on TV aside from when your scene in HITCHHIKER'S in which he was seen diving naked into the ocean after renouncing money?

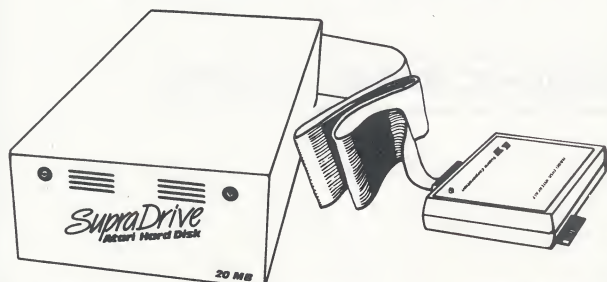
Adams: Oh, dear, yes. No, certainly when I was at Cambridge I wanted to be a writer/performer -- I very much had the Pythons in my sights -- that's why I wanted to do that kind of stuff. But for some reason the world wasn't that keen on me being a performer. And probably quite rightly. I've only only performed on local television in East Anglia. But I suppose I feel oddly quite pleased by that, actually, because other friends, contemporaries at Cambridge, who've gone on to become television stars, I do not envy their having well-known faces that you can't take out in public. I mean, that's awful. And just occasionally, though not for a while now, I do college lecture tours and dramatized readings from HITCHHIKER'S, which I really enjoy -- it satisfies the performer bug. It's quite fun, but you don't have to sort of





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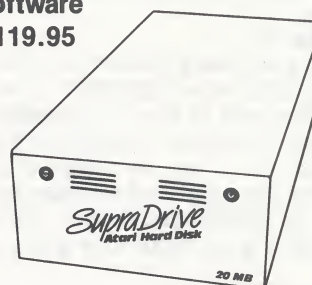
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stick beards on or hang around in fields getting wet waiting for cameras and all that kind of stuff. But in terms of being well known, briefly, a couple of years ago, I did a job for Paul McCartney. I was trying very hard not to be utterly awestruck in meeting this guy who helped form the way I thought in the '60s when I was growing up. It didn't really work out, but he said an interesting thing. You know he did that song with Stevie Wonder called EBONY AND IVORY, and he was saying that for a long time he'd WANTED to do something with him but felt very nervous about asking him. "I can't just ring up STEVIE WONDER." And his wife, Linda, said "It's all right, you CAN actually ring up Stevie Wonder, you are actually Paul McCartney." And eventually he did. Stevie Wonder was obviously extremely pleased and delighted to be asked.

**Antic:** You've had this on both sides, I suspect, because you've said, "Gee, this is PAUL McCARTNEY", and other people have said, "Gee, this is DOUGLAS ADAMS."

**Adams:** It's complicated. For instance, John Cleese was a great hero of mine when I was a kid. I've got to know him since -- not terribly well, to be honest -- and I STILL find him rather terrifying, and I'm never at ease with him at all. There are other friends of mine who know him a lot better than I do who don't find that. I think it's probably just that because he was SUCH a hero of mine, there's a bit of residual awestruckness, which I should know better than to have.

**Antic:** I would imagine that you would just learn to take it in stride when people start shining your shoes for you and you haven't asked them to.

**Adams:** Yes, well, you see everybody has this thing that "There are people more famous than me and there are people less famous than me," which is why Paul McCartney had that difficulty phoning up Stevie Wonder -- even, in fact, the experience of becoming well known at school, and everybody points at you and expects certain things of you. In fact, it's exactly the same. So through having had the relatively little bit of fame that I have to deal with, I know, to a fairly good degree, I think, what it's ACTUALLY like being Paul McCartney.





## Construction

The schematic should help in this department. Constructing this gadget is easy and cheap. The hardest part might be trying to find a connector for this port. You can get one from Douglas Electronics, 718 Marina Blvd., San Leandro, CA 94577, (415)483-8770 (part number 33-DE-40, \$10.00 per piece). Another problem you might face is getting the PAL programmed. If you don't know of a way to get the PAL programmed, you could use discrete logic chips to build the state machine.

### Building it

The pin-outs given in the User's guide are CORRECT. The pin-outs given in the "Internals" book are WRONG. Follow the schematic. You can get the pin-outs for the '374s from an ASTTL or FAST databook. The PAL16L8's pin-outs are given below.

### PAL PINOUTS

**Legend:** A preceding slash implies an active-low signal. NC implies no-contact (nothing should be connected to these pins.) (i) indicates that the signal is an input. (o) indicates that the signal is an output. (A) implies that the signal comes from/goes to the Atari cart. port. (u1) implies that the signal goes to U1, the least-significant latch. (u2) implies that the signal goes to U2, the most-significant latch. (ex) implies that the signal goes to any external hardware connected such as a ram-disk.

pin #	signal
1	/UDS (i, A)
2	/LDS (i, A)
3	/ROM4 (i, A)
4	/ROM3 (i, A)
5	NC
6	NC
7	NC
8	NC
9	NC
10	gnd (A)
11	NC
12	/OE (o, U1, U2)
13	A0 (o, U1)
14	/PWE (o, ex)
15	NC
16	/clk (o, U1, U2)
17	NC
18	NC
19	NC
20	Vcc (A)

## Listing 1

```

/module name CART.$%W% of %G%
/
/ contains
/ writecart 16: write word to cartridge port.
/ writecart 8: write byte to cartridge port.
/ readcart 16: read word from cartridge port.
/ fillmem : fill shared memory with a pattern.
/
.prvd
/-----
/ WRITECART16: WRITE 16 BIT DATA TO ADDRESS ON CART PORT
/-----
.shrl

.globl writecart16_
writecart16_:
linka6, $0
clr.l d0
move.l (a6), d0/ fetch data to write
addl.i $0xF80000, d0/ add it to base addr of ROM 3
movea.l d0, a0/ generate addr1 (say)
move.b(a0), d0/ read addr1 to latch data.
clr.l d0
moveb(a6), d0/ now take address to write data to
addl.i $0xFA0000, d0/ add this to base addr of ROM 4
movea.l d0, a0/ call this addr2 (say).
move(a0), d0/ read addr2 to write out data
unlka6
rts/ as side-effect, same data will be returned

/-----
/ READCART16: READ 16 BIT DATA FROM ADDRESS ON CART PORT
/-----
.shrl

.globl readcart16_
readcart16_:
linka6, $0
clr.l d0
moveb(a6), d0/ fetch address to read from
addl.i $0xFA0000, d0/ add it to base addr of ROM 4
movea.l d0, a0/ generate addr1 (say)
move(a0), d0/ read addr1 to latch data.
unlka6
rts/ as side-effect, same data will be returned

/-----
/ WRITECART8: WRITE 8 BIT DATA TO ADDRESS ON CART PORT
/-----
.shrl
/
/ writecart8(addr, data)
/ int addr, data
/
.globl writecart8_
writecart8_:
linka6, $0
clr.l d0
moveb(a6), d0/ fetch address

```





```
and$0xFFFE, d0/ and with 0xFFFE to evenify
move.l d0, d1
cmp.w $8(a6), d0
beq evn
```

```
odd:/ this is write byte to odd address
move.w d0, 8(a6)
addl.$0xFA0000, d1/ generate real even address
movea.l d1, a0
move.w(a0), d0/ fetch word
andl.w $0xFF00, d0/ null odd byte of this word
move.w d0(a6), d1
andl.w $0x00FF, d1/ null even byte of data
or.w d1, d0/ merge together
moved0, -(a7)
move8(a6), -(a7)/ and write to even address
jsr writecart16_
addq.l $4, a7
unlka6
rts
```

```
evn:/ even address continue here
move.w d0, 8(a6)
addl.$0xFA0000, d1/ generate real even address
movea.l d1, a0
move.w(a0), d0
andl.w $0x00FF, d0
move.w d0(a6), d1
asl.w $8, d1
andl.w $0xFF00, d1
or.d1, d0
moved0, -(a7)
move8(a6), -(a7)
jsr writecart16_
addq.l $4, a7
unlka6
rts
```

```
/ -----
/ FILLMEM : FILL SHARED RAM WITH A PATTERN
/ -----
.shrl
```

```
.globl fillmem_
```

```
fillmem_
linka6, $0
move8(a6), d1/ this is the fill pattern (a 16 bit word)
```

```
clr.l d0/ start filling from addr 0 offset from
/ 0xFA0000
```

```
floop:moved1, -(a7)/ push data (fill pattern) on stack
moved0, -(a7)/ push address on stack
jsr writecart16_/ write fill pattern
move(a7)+, d0
move(a7)+, d1/ pop stack
```

```
addq.l $2, d0/ increment address
cmp.$0x1000, d0/ is it the end of the 2K word memory
bge done
```

```
bra floop
```

```
done:
unlka6
rts
```

```
/ -----
/ RUN320: TAKE TMS32010 OUT OF RESET MODE
/ -----
.shrl
```

```
.globl run320q_
```

```
run320q_
linka6, $0
movea.l $0xFA1000, a0/ address of the control
/ register
move.w(a0), d0/ fetch contents of control register
andl.w $0x00FF, d0/ mask off contents of 320 port 1
orl.w $0x0001, d0/ force only reset to 1
```

```
move.w d0, -(a7)/ push data to write in stack
move.w $0x1000, -(a7)/ push address offset to write
/ to in stack
jsr writecart16_
addq.l $4, a7/ remove arguments from stack
```

```
movea.l $0xFA0000, a0/ read the control register
/ again
move.w(a0), d0/ keep value in a0 (ie return it)
```

```
unlka6
rts
```

```
/ -----
/ STOP320: PUT TMS32010 IN RESET MODE
/ -----
.shrl
```

```
.globl stop320_
```

```
stop320_
linka6, $0
movea.l $0xFA1000, a0/ address of the control
/ register
move.w(a0), d0/ fetch contents of control register
andl.w $0xFFFE, d0/ force reset bit to 0,
```

```
move.w d0, -(a7)/ push data to write in stack
move.w $0x1000, -(a7)/ push address offset to write
/ to in stack
jsr writecart16_
addq.l $4, a7/ remove arguments from stack
```

```
movea.l $0xFA0000, a0/ read the control register
/ again
move.w(a0), d0/ keep value in a0 (ie return it)
```

```
unlka6
rts
```





## Listing 2

```
/*
 * poke.cPoke data into address on cart port.
 *
 * compile: cc poke.c cart.s
 */

#include <stdio.h>

#define ROM3_BASE 0xFB0000L
#define ROM4_BASE 0xFA0000L

/*
 * writecart16(addr, data) in cart.s
 * unsigned addr; 0..65535
 * int data;
 *
 * -- Writes 16 bit data to ROM4 space on cart port.
 * -- Address supplied is referred to ROM4_BASE. Data is
 *    written there.
 *
 * eg. writecart16(0xC000, 0xFFFF), will write
 *    16 bit word 0xFFFF to location ROM4_BASE + 0xC000.
 * eg. writecart16(0xC001, 0xFFFF) will bomb because
 *    addr is odd.
 */

extern int writecart16();

main(argc, argv)
int argc;
char **argv;
{
    char s[10];
    unsigned addr;
    unsigned data;
    register unsigned i;

    if ((argc != 2) && (argc != 3) && (argc != 4)) {
        printf("\tUsage: poke (r|w) (addr) <(data)>.\n");
        printf("\t(addr) and (data) are to be 16 bit decimal
        numbers.\n");
        exit(0);
    }

    if (argv[1][0] == 'w') {
        addr = atoi(argv[2]);
        data = atoi(argv[3]);
        printf("Writing 0x%4x to 0xFa0000+0x%4x\n", data, addr);
        for (i=0L; ; ++i) {
            writecart16(addr, data);
            if (i%10000L == 0) {
                i = 0L;
                printf("***");
                fflush(stdout);
            }
        }
        exit(0);
    }
}
```

```
else if (argv[1][0] == 'r') {
    addr = atoi(argv[2]);
    printf("0xFA0000 + %x contains %x.\n",
    addr, *(int *) (ROM4_BASE + addr));

    exit(0);
}

else {
    printf("Unknown command '%c'. Must be 'r' or 'w'.\n",
    argv[1][0]);

    exit(-1);
}
}
```

## Listing 3

```
pal1618

/ uds / lds / rom4 / rom3 nc nc nc nc nc gnd
nc / oe / a0 / pwe / help / dclk nc nc nc vcc

;Version 2. Hopefully with the A0 problem corrected
; PWE is the write-enable. It is called PWE since it
; represents a PENDING
; WRITE ENABLE!

function table

pwe = / pwe * rom3 + pwe * rom3 + pwe * / rom3 *
/ rom4 * / help +
pwe * rom4
help = rom4 * pwe + help * / rom4 * pwe
a0 = / a0 * rom3 * uds + a0 * / rom4
dclk = rom3 * lds + rom3 * uds
oe = rom4 * pwe
```







envelope and 65535 the slowest.

After setting the envelope period we can choose from one of 10 possible envelope shapes as shown in figure 2. To achieve this we set the first four bits of register 0x0d.

Given an explanation of what each register does on the sound chip, the workings of the Soundex program can be figured out.

Figure 2

Selection bits				
CHROMA	VIDEO	TELE	MONO	
0	0	0	0	Uniform shape
0	0	0	1	Uniform shape
0	1	0	0	Uniform shape
1	0	0	0	Uniform shape
1	0	0	1	Uniform shape
1	0	1	0	Uniform shape
1	0	1	1	Uniform shape
1	1	0	0	Uniform shape
1	1	0	1	Uniform shape
1	1	1	0	Uniform shape
1	1	1	1	Uniform shape

0 - off  
1 - on  
- not used

Uniform shape

## ATARI - VCR HOOK UP

by Patrick Mulvey

If you were at the April LIAUG meeting, then you had the chance may have seen my demonstration of how an 8-bit ATARI computer can be hooked up to a VCR. This enables you to record both the sound and the picture of the computer on the VCR. This article will show the ways to perform this connection.

The first method is to simply disconnect either the twin lead connections (or the coax connector) from the back of your TV, and attach it to the antenna input or cable connection on your VCR. You can then record both picture and sound just like any other video source.

The second method requires that the monitor jack be used. But what's the monitor jack? On all models of the ATARI computer with the exception of the 400, there is a 5 pin female DIN connector mounted on either the back or side of the computer. This is used to connect the computer to a monitor, hence the name. The cable that we will use has a connector for the computer on one end and four RCA plugs at the other. This can be purchased at computer or electronic stores.

First set up your VCR so that it can play a tape. Be sure you can hear the sound of the tape. Secondly check your VCR's manual for a camera-tuner or source-tuner switch and put it in the camera position. Some VCRs don't have this switch, but will switch automatically.

You must find which two of the four RCA plugs on the cable are the correct ones to use. Plug the cable into the computer, and use a music disk or other program to cause the computer to produce a constant sound. One at a time plug the RCA plugs into the VCR's audio input jack until you hear music from the TV. If you hear a buzzing sound you probably have found one of the video outputs. It would be a good idea to mark the audio plug as audio or sound.

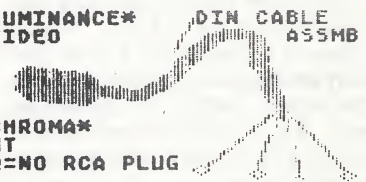
Next plug each of the remaining plugs into the video input jack of the VCR until you get a full colour picture. One plug will give you a black and white picture and the second an unclear screen. Mark the correct plug video or picture.

Now that we know what is what, we can begin recording. By simply putting the VCR into its record mode, you can record whatever images you generate from the ATARI. You can create introductions for your home video. You could make a full length feature with Movie Maker, or just demo the capabilities of your system to a friend who may be too far away to visit.

If you want to get more advanced, you could feed the audio from the computer into an audio mixer first for processing and then into the VCR. Similarly, you could use other audio processing devices such as a three head tape recorder in the signal path for effects such as echo or audio delay. Additionally, you could replay software to find flaws in high speed animation. A frame can be frozen and re-input into the computer via Computer-Eyes for printing or creating a title overlay. These ideas can be expanded on or new ones developed limited only by imagination.



- 1 COMPOSITE LUMINANCE\*
- 2 COMPOSITE VIDEO
- 3 GROUND \*G
- 4 COMPOSITE CHROMA\*
- 5 AUDIO OUTPUT
- \*=NOT USED G=NO RCA PLUG







# WORLD OF ATARI FAIRE SANTA CLARA SHOW DEBUTS

- BY NAT FRIEDLAND, ANTIC EDITOR

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With all the other Atari Faires that took place during the past 12 months and the huge Consumer Electronics Show just three weeks ago, it was surprising to find so much new to see last weekend during the hastily-organized World of Atari Faire at the year-old Santa Clara Convention Center. But several unfamiliar companies with impressive ST software made their Atari Fair debuts last weekend. And a near-production version of the Atari SLM804 laser printer had its first public showing. This report concentrates on products that have not been reported on previously.

The Atari laser printer is smaller and lighter than most current models, but seems just about as fast and sharp. It was operating in Diablo 630 emulation with a 4Mb Mega ST running a pre-release version of the Microsoft Write word processor with a WYSIWYG display. The laser controller board is in a modem-sized box cabled between the ST's high-speed Direct Memory Access (DMA) port and the printer. This controller box also has a second DMA port for connecting a hard disk. This 300 dots-per-inch printer supports Atari's GDOS (which automatically uses the highest resolution available to a printing device). We picked up a selection of the sharp graphics and multi-font printouts that the Atari SLM804 kept churning out throughout the day. Late summer or September is the current estimated market arrival for the Atari Desktop Publishing System. At a neighboring booth, Word Perfect was showing a near-beta version of the forth-

coming ST edition of its bestselling word processor. The GEM-based software, due in September, looked extremely fast and powerful. It will list at \$395 but is often discounted by more than 50% in the IBM version. The WP rep said that the company is working closely with Publishing Partner's developers to assure immediate desktop publishing compatibility for the word processor.

Programmers will love Omniware's new Edit/Booster, an ST text editor that also generates GEM code by mouse. Select "Draw A Circle" from a drop-down menu and the GEM code appears in your program. The version currently on sale just works with C, but updates for GFA BASIC, Personal Pascal and Modula-2 are promised soon. Omniware, based in Bellevue, Washington also showed a desk accessory controller for the widely used Hewlett-Packard LaserJet printer and an H-P terminal emulator.

Iliad Software of Orem, Utah, another new entry, showed a powerful, user-friendly CAD/drawing program, Athena II, selling for \$99.95. Athena requires a 1Mb ST, but functions in either color or monochrome. Coming soon is a circuit-testing simulation program called Circuit Maker. The company was also showing a multiuser, multitasking operating system, PDOS, which is similar to the system used on 68000-based VME workstations.

A wide-ranging product line of specialized business applications for the ST was shown by Hi-Tech Advisors of Winter Haven, Florida. Their \$199 titles included Church Manager, Service Station Manager, Video Store Manager, Inventory Pro and Sales Pro Plus. Mail Pro handles custom mailing lists and form letters for just

\$69. SBT of Sausalito, California kicked off a line of dBASE III business accounting modules based on the ST's dBMAN clone. Beckemeyer Development Tools of Oakland, California showed their latest addition, a touch-screen restaurant menu system. The demonstration model for a Chinese restaurant was almost frighteningly complete and efficient.

Two image scanners were shown at the fair. Navarone, of Sonoma, California had a \$1,239 ST system including the Canon IX-12 scanner. The simpler \$99.95 IMG Scan from Seymour-Radix of Irving, TX used a small box that tapes to the print head of any dot matrix printer that supports graphics.

Old-timer Lou Schwing of Astra Systems was gleefully demonstrating the ruggedness of his HD+ unit which combines an 20Mb hard disk and a double-sided ST 3.5" disk. The HD+ was notably cool and even kept operating as he waved it in the air and laid it on its side. DeskCart, a \$99.95 cartridge from Quantum Micro of Liverpool, New York is a real-time clock/calendar with a full set of Sidekick-type desk accessories including a filer, calculator, address book, notebook, macros, RAMdisk driver and other utilities. The cartridge format is claimed to save memory and operate faster. The World of Atari was busy and profitable for most exhibitors throughout its Friday-Saturday run. The thriving Antic booth was showing upcoming ST graphics software from The Catalog -- Cyber Paint, a paint program that creates images for animation with Cybermate, and Spectrum 512, a smooth-lined, ultra-clear paint program that can display all the ST's 512 colors simultaneously.





## Music / MIDI Product Roundup

8-bit.

For storing your library of patches there are MidiPatch CZ and MidiPatch DX (for the Casio CZ and Yamaha DX synthesizers respectively). Both list for \$79.00.

For other machines, GenPatch is available and allows you to tailor it to your synth. \$149.00

To add a MIDI port to your 8-bit system there is the MidiMate interface. \$199.99

The Midi Music System (\$64) is the MIDI version of the Advanced Music System. It is a single step, monophonic sequencer. Tracks can be layered to create cords.

For more powerful sequencers, there are MidiTrak II and III. Version II is for the 800 or XL computers, while version III will use the extra memory of the 130XE. Using step-time or real-time note entry, both programs offer 16 tracks and record all MIDI data. They list for \$187 and \$197.

Hybrid Arts, Inc 11920 W. Olympic Blvd. Los Angeles, CA 90064 (213) 862-3777

For the ST, Midisoft offers Midisoft Studio for an introductory price of \$99. It features fast real-time tape recorder like functions; 32 polyphonic tracks; 70 note capacity on a 1040; full track editing; and uses all MIDI signals. Midisoft Corporation, P.O. Box 1000, Bellevue, WA 98009

### DR. T'S MUSIC SOFTWARE

The Keyboard Controlled Sequencer (KCS, \$195) operates in track mode, a 48-track computerized tape recorder; song mode, for convenient chaining of sequences into songs; and open mode, for flexible structuring. Memory capacity is 16 songs, 128 sequences and about 50,000 notes on the 520ST (130,000

on the 1040ST). Beginners might fancy the MIDI Recording Studio (\$39), a bare-bones version of the KCS track mode providing six-track recording. The Copyist (\$195) is a publication-quality score editing and printing program loadable from the KCS and having access to its data and play functions.

Dr. T's Music Software, 66 Louise Road, Chestnut Hill, MA (617) 244-6954.

### INTRODUCTION TO MIDI PROGRAMMING

Another fine title from the Abacus ST library, the Introduction to MIDI Programming devotes more than 250 pages to the rudiments of this popular form of musical creation, with sections on hardware hookup, guides for buying synthesizers and MIDI software, etc., mdrive.c, sets.c and other source codes.

Music Box (\$49.95 from XLEnt Software) is a player program with 8 tracks and voices, with input through the keyboard.

If you just want to listen to pre-recorded songs, Micro-W Distributing offers Midi Magic for \$39.95. It does not allow you to record music, but there are over 100 music disks available for \$19.95 each.

In the realm of public domain there are quite a few good programs available. MIDIMIKE comes with several song files and is a well done one track sequencer. CASIO is a library program for the CZs that comes with sample patches. MIDIDEMO is a music player program with a piano screen display and pre-recorded files. Many song files for the public domain and commercial programs are available on computer BBS.

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Mark of the Unicorn	Hippo
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# LONG ISLAND ATARI USER GROUP

## MEMBERSHIP APPLICATION

To apply for **USUG** membership fill out the following application and bring it to the next meeting, or mail it (including check or money order) to:

The Long Island ATARI users group  
P.O. Box 836  
Lindenhurst, N.Y. 11757

The current dues are \$15.00 yearly, plus \$5.00 additional to receive all mailings, including the newsletter). Make checks payable to "The LIAUG".

First name: \_\_\_\_\_ Last name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone #: \_\_\_\_\_

Your system (please be specific):

Computer: 400 600 800 800XL 65 130 520 1040 MEGA

Memory: \_\_\_\_\_ K Cassette: \_\_\_\_\_ Disk drives: \_\_\_\_\_

Modem: \_\_\_\_\_ Interface: \_\_\_\_\_ Printer: \_\_\_\_\_

Other: \_\_\_\_\_

What languages are you familiar with? \_\_\_\_\_

In what areas would you like to learn more about your computer system? \_\_\_\_\_

For Liaug use only: Rec'd \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Amt: \_\_\_\_\_ Db: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ TYL: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Card Y/N ML Y/n Mail / BBS / Meet



The Long Island ATARI User Group meets on the first Saturday of each month at the Nesconset branch of the Smithtown Public Library. Our Meetings are open to all those interested at no charge. They begin at 11:00 am in the library's community room and end at 4:00 pm.

**Directions to the library:**

**From the Long Island Expressway:** Take exit 58 North (Old Nichols Road). Continue North for approximately two miles and make a left (west) onto Smithtown Blvd. Continue west for 1 and 1/2 miles to the Nesconset Plaza on the right hand side of the road. The library is located in the west end of the plaza.

**From the Northern State Parkway:** Take the Northern State to its end where it continues east as Veterans Memorial/Nesconset Highway (routes 347 - 454). Go east approximately two miles and take the left fork (347). Continue for another three miles to Terry road. Make a right onto Terry and take the left fork (approximately 3/4 mile) onto Smithtown Blvd. The library will be on the left hand side approximately one mile from the fork in the Nesconset Plaza.



---

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